

CARBON CONTAINING SILICON OXIDE FILM HAVING HIGH
ASHING TOLERANCE AND ADHESION

Abstract of the Disclosure

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An insulating film used for an interlayer insulating film of a semiconductor device and having a low dielectric constant. The insulating film comprises a carbon containing silicon oxide (SiOCH) film which has Si-CH₂ bond therein. The proportion of Si-CH₂ bond 10 (1360cm⁻¹) to Si-CH₃ bond (1270cm⁻¹) in the insulating film is preferably in a range from 0.03 to 0.05 measured as a peak height ratio of FTIR spectrum. The insulating film according to the present invention has higher ashing tolerance and improved adhesion to SiO₂ film, when compared with the conventional SiOCH film which only has 15 CH₃ group.